

ISM-183

LABORATORY PERSONNEL

JUNE 2004

MERCURY SPILL PROCEDURES

Mercury is the heavy, silvery-white liquid commonly used in mercury vapor lamps, thermometers, barometers and other scientific equipment. It occurs naturally in an ore known as cinnabar and the average person's daily diet contains about 20 micrograms of mercury.

When mercury is spilled, it breaks into tiny droplets that may scatter widely, getting into crevices in floors and counter tops. These droplets release toxic vapors even at room temperature and chronic mercury exposure can affect the neurological, renal, and reproductive systems. In addition, liquid mercury can be absorbed through intact skin.

If mercury contacts the skin, wash the skin with soap and water. For mercury spills in a heated water bath or warming block, turn the equipment off and allow to cool to minimize vaporization. Those doing the cleanup should wear protective gloves, such as the latex gloves found in most laboratories. The cleanup should begin with collecting the droplets. Large droplets can be consolidated by using a scraper or piece of cardboard, and the pool of mercury can be removed with a hand-operated pump or other appropriate equipment. A standard vacuum cleaner should never be used to collect mercury, as subsequent use of the vacuum will emit mercury vapor. If the house vacuum system is used to collect the droplets, it must be protected from the mercury by the use of a filter and a trap. Wet paper towels or a piece of adhesive tape may be used to collect small droplets. Commercial cleanup sponges and kits are also available from many scientific and safety vendors. The collected mercury should be placed in a capped plastic container, such as a centrifuge tube. To meet EPA regulations, mercury-contaminated cleanup and spill debris must be labeled and given to the Waste Management office; call x5718 to arrange for disposal.

Mercury spills can be prevented by using supplies and equipment that do not contain mercury. EHS has long recommended that non-mercury thermometers, available from the Warehouse, be substituted (stock Number SPWH-66400049). If mercury thermometers must be used EHS recommends using plastic coated versions, available from most scientific vendors. Large items that contain mercury, such as cell counters and manometers, should be stored and used in plastic trays that contain the mercury in the event of a release.

For further information on the hazards of mercury, or if assistance or equipment is needed for mercury spills, please contact EHS at x1451.